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ABSTRACT

A model of reading development was tested by examining preschool children's knowledge of print, their interactions with a teacher, and their parents' perceptions of children's attitudes toward printed materials. The central tenet of the tested model was its hierarchical notion of children's progress in learning to read, leading to the assumption that instruction must first be compatible with the learner's conceptual understanding of the topic before providing more complex instruction. Fifteen three- to six-year-old children participated in ten prereading lessons as members of either story-oriented groups (lower level of reading understanding) or print-oriented training groups. The story-oriented lessons emphasized activities matched to the children's level of reading understanding, while the print-oriented lessons utilized activities both at the children's level and at the next level of reading understanding. Posttest data confirmed that the prereading lessons fostered children's interest and improved their knowledge about how to read. Analyses of teacher-student interactions indicated that the activities matched to the children's level of reading development were more effective than those that were not. (RL)

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CENTER FOR THE STUDY OF READING

Technical Report No. 224

AN INVESTIGATION OF PREREADING INSTRUCTION FROM A DEVELOPMENTAL PERSPECTIVE: FOUNDATIONS FOR LITERACY

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Abstract

Children's knowledge about reading was examined through questions about their knowledge of print, through analysis of their interactions with a teacher, and from questions to parents. Three- to six-year-old children were asked to name letters and spell words, talk about a book, and print letters and words. Ten prereading lessons were given to the children to measure immediate and longer-term effects of instruction. Parents were asked questions before and after the instruction about their perceptions of their child's knowledge and interest in reading and about the support they provided their children at home for reading. The results confirmed the prediction that children's knowledge about reading could be construed in terms of levels of development, enabling the construction of activities to foster children's interest and knowledge about how to read. Analyses of teacher-student interactions indicated that activities that matched children's level of reading development was more effective than those that did not.

An Investigation of Prereading Instruction from a Developmental Perspective: Foundations for Literacy

There has been a tendency in education to explain reading ability differences among first-grade children in terms of maturation. However, this often means rejecting the notion that parents and preschool teachers play a role in preparing children specifically for reading. Further, it is often assumed that if beginning reading instruction is delayed, immature children will eventually learn to read. These views, while based principally on research in the 1930's (the two studies most frequently cited are Morphett & Washburne, 1931, and Dolch & Bloomster, 1937), have received little empirical support (Clay, 1972; Coltheart, 1979; Durkin, 1972).

An equally pervasive position has been to describe beginning reading in terms of a number of very general prerequisites. Gray (1925), for example, listed six prerequisites to reading: facility in use of ideas, wide experience, sufficient command of English, wide vocabulary, accurate enunciation, and a desire to read. While it is likely to be true that these characteristics suggest the ideally prepared child, they encompass so many skills and are so loosely stated that neither parent nor teacher could readily use the information to prepare a child for reading. A similar stance has been taken in the development of reading readiness tests. Nurss (1979), surveying published tests, found no general agreement as to what readiness is or what it should measure. Her survey

indicated that reading readiness tests typically include visual, auditory, and language understanding skills and a teacher assessment of emotional and social maturity. Here, because so many skills and knowledge characteristics are tapped, test results are most likely to have no benefit other than ranking children.

These attitudes and practices have, in our opinion, not resulted in practical educational applications, especially for children of minority cultures and low socioeconomic standing. It is these children especially who suffer high rates of reading failure (Francis, 1977; Kinsbourne, 1976; Kohn & Rosman, 1974; Wallach, Wallach, Dozier, & Kaplan, 1977). When our sense of what reading involves and how it is acquired is described in such general terms, direct application to prereading programs and advice to parents can easily result in vague, possibly unsound, practices. This study addresses this problem of establishing more narrowly conceived programs and activities for home and school. While only one of many that need to be carried out, it is hoped that studies of this sort will eventually affect educational practice.

Recently acquired evidence suggests that learning how to read reaches into the preschool years and has a longer period of development than has usually been recognized (Bissex, 1980; Durkin, 1966; Mason, 1980; Mason & McCormick, 1979; Read, 1971; & Söderbergh, 1977). Further, there seem to be specific rather than general conceptual underpinnings to an understanding of how to read (Ehri, 1979; Graves, 1980; Liberman,

Shankweiler, Liberman, Fowler, & Fischer, 1977; MacKinnon, 1959; Anderson, Teale, & Estrada, Note 1). In particular, prereading concepts that emerge through experiences at home with books and written materials are found to play an important role in later reading success (Durkin, 1966). Also, compensatory programs that have been successful rely principally on intensive training (e.g., Becker, 1977; Clay, 1972; Elkonin, 1963; Rosner, 1974) or on a strong problem-solving approach to reading (MacKinnon, 1959). We interpret these results to indicate that delaying instruction until a child is ready to learn to read is quite the opposite of the best policy. However, what should be taught is still not apparent and is the subject of widely varying opinions.

One position taken is that one must first help children "break the code," that is, receive phonics instruction in order to understand the relationship between letters and sounds and be able to identify new printed words (Becker, 1977). In contrast is a view that reading must be meaningful. Instruction cannot be broken into phonetic skill components because that would so distort the act of reading that children will be misdirected and will attend to inappropriate aspects of print (Goodman & Goodman, 1979).

Our view is that both positions have their place; however, the meaningfulness of print must be emphasized before engaging children in word analysis. That is, there exists a hierarchy of prereading concepts. First children must learn that particular and meaningful words and messages have printed counterparts. When they have understood this

concept (or set of concepts), they will be able to learn the letter-sound characteristics of the language.

This position, presented by Mason (1980) and extended in Mason (in press), Mason and Au (in press), and McCormick and Mason (in press), is derived from evidence indicating that children often acquire considerable knowledge of what and how to read as a function principally of experiences in recognizing and reading words, spelling, printing, and being read to. An important aspect to this knowledge is its apparent initial emphasis on meaningfulness of printed words and messages rather than on letter-sound characteristics. The following description of the proposed hierarchy clarifies this point.

Three changes in young children's conceptualization about reading are hypothesized. In the first level, reading is highly contextualized; in a sense, it is similar to looking at and remembering pictures. Consequently, as children learn to recognize words that appear on traffic signs, packages, labels, billboards, and signs, attending mostly to the meaning, they do not realize that words need not be context-specific. Hence they may not recognize a familiar word in a new context, knowing, for example, STOP on a stop sign but not elsewhere. Also, even though they can learn words, they may not report their knowledge as we would expect. For example, several 4-year-olds in one of our studies learned the word rabbit, but later called it "bunny." Finally, although they frequently learn to

name letters, they do not know how to use them for remembering words. For example, when asked to spell short words (with magnetic letters), they typically lay out in a random order all the letters we have provided. Thus, at this level of development, children's strategies for recognizing printed words are so inadequate that learning is slow, relatively ineffective, and often tied to inappropriate clues.

As children become better acquainted with printed forms of words and letters, such as through having alphabet books and signs read to them and attempting to print letters, they pay closer attention to print. They probably now notice that the same word can appear in different places and, eventually, that some letters have particular sounds that are repeated in words. For children not receiving training in phonics, this appears to occur through their own attempts to write, spell, and read familiar words (Bissex, 1980; Chomsky, 1977; Paul, 1976; Read, 1971). We believe that such knowledge fosters a change in viewpoint and is the initiation of a Level 2 understanding of reading. For now, children can reorganize their conceptual representation of how to learn and remember printed words by utilizing letter-sound relationships. With this more accurate understanding about print, they are able to learn a large number of words, they can make quite reasonable guesses about spelling short words, and they will try to sound out some words they have never seen. However, as documented by Biemiller (1970), Bissex (1980), and Söderbergh (1977), their orientation at this level of development to letters and

sounds may lead them to ignore or pay insufficient attention to context. Also, they have not learned that many letters have more than one sound and that clusters of letters (e.g., ight, ire, ill, al) provide more accurate cues than do single letters. For this reason, they may try to map each letter to a unique sound, use the wrong sounds for some letters or letter clusters, or become completely confused by words which violate the major letter-sound patterns (e.g., said, there, one, was).

A third level of development is needed that appears to occur through extensive experiences in reading. Children now begin to notice the repetition of sounds for letter clusters in words (e.g., seed, need, feed), the possibility of manipulating letter sounds in words (a child reported that to write look, replace the b in book with l; example from Bissex, 1980), and morphophonemic characteristics of our language (noted by Söderbergh, 1977). Also, they probably return to attending more fully to context to figure out new words. That is, at Level 3 children learn many or most words they see in print because they have now reorganized their conceptualization of print to feature again the meaningfulness of print. Thus, they hold a more flexible view toward letter-sound relationships, being better able to recognize words that have unique patterns. While making good guesses about the pronunciation of new words, they are willing to skip unknown words in order to attend to text meaning. Level 3 readers have acquired a sufficiently precise conceptualization of reading that they can progress rapidly in reading and can read and learn from more complex texts.

If this model of reading development indeed reflects young children's typical progress in learning to read, it suggests what sort of prereading activity or instruction to give to children. Since the central tenet of the model is its hierarchical character, then instruction ought to be more successful if it merges with children's level of understanding. That is, an assumption of this model is that instruction must first be compatible with the learner's conceptual understanding of the topic before attempting to provide more complex information. To test this notion, we chose to work with children who were at the first level of development, giving some only Level 1 tasks and the others both Level 1 and Level 2 tasks. Level 1 tasks involved reading words in context, reading or reciting and discussing stories, and discussing pictured words in terms of their meaning. Level 2 tasks involved thinking of and finding words beginning with particular letters and constructing pictures to go with particular letters. Evidence of the force of the model was to be obtained by measuring pretraining to posttraining score changes, by contrasting parents' perceptions of their children's interest and knowledge of reading before and after our intervention, and by comparing the social interaction patterns between teacher and children during Level 1 and Level 2 tasks.

Method

Subjects. A group of 15 middle-class children attending a daycare center in a small city in Southern Illinois served as subjects in the study. All but one were Level 1 readers, as indicated by pretest results

and parent interviews. The single Level 2 reader, who was a kindergartener, participated in the lessons but was excluded from most analyses of results. Interviews with parents revealed that all parents had completed high school. Three of the mothers were college students, while the remainder were day-care teachers, salesclerks, or secretaries. Six of the 15 families were single-parent (mother only) households. The children ranged in age from 3 years 7 months to 6 years 5 months, an average of 4 years 4 months. Eleven of the 15 children were only children (the average number of siblings was 0.3). Taking into account the one child who attended kindergarten, the average length of attendance at school or preschool was 17 months. Thirteen of the children were Anglo, and the remaining two were Black.

Materials. One parent questionnaire (Mason, 1980) consisted of 10 questions about children's knowledge about letters, words, and stories and about how to spell, print and name letters, and recognize words. Another set of 12 items measured parent support (whether children watch educational TV and discuss TV programs with parents, whether parents read to children, the availability of books at home, and opportunities for children to go on outings or to the library). The questionnaire was presented twice to parents to fill out at home, a week before training and then five months after training. The questionnaire was also given to a new group of parents from the daycare center the following year. A second questionnaire, which was administered orally to parents three weeks after training, contained questions about children's interest in the stories

that had been taught to them: Is the child still interested? Does the child ask for books to be reread? Does the child read to self? Are there other signs of interest? Also, what aspects of print does the child seem more interested in (naming letters, printing, reading words, spelling, having stories read, or reading stories), and how does the parent read stories to the child (parent has child listen, parent points to pictures, parent points to words, or parent paraphrases rather than reads story).

A letter and word recognition test (Mason & McCormick, 1979) was given to the children before training, and the first three subtests (picture-word matching, spelling, and letter naming) were repeated after the training. Also before training the children were told a five-sentence story (from Stein, personal communication) and after an intervening task were asked to recall the story. Free and probed recall scores were obtained by asking children to retell the story and then to give further details of the story. For the intervening task, called book words, they were handed a book upside down and asked to find its beginning, end, top and bottom, and to identify a word, a letter, and the next page. The children were additionally tested after training on their ability to "write something," "write a letter," and "write a word," and on their ability when handed a new but easy-to-read story upside down to right it and read the text.[1]

Procedure. Children were tested and parents were interviewed at the beginning of the summer. Following this, the children were separated into

two approximately equal groups in terms of sex, age, and letter and word knowledge. One group received print-oriented training (Levels 1 and 2), while the other obtained story-oriented training (Level 1). Further subdivided into groups of three or four, the children received 10 lessons which lasted about 15 minutes each day, for two weeks.

For the print-oriented training, the teacher demonstrated manuscript printing of "the letter of the day." (The six letters presented during the two weeks of training were s t m p c b.) After the teacher's naming of the featured letter, the children took turns finding the letter from a box containing many upper- and lower-case examples. The children practiced printing the letter on unlined paper with an example of the letter printed in manuscript form at the top. These are Level 1 tasks because they only require children to recognize or copy symbols. They were given in order to prepare children to the next, Level 2, task. They were asked to find or sort labeled pictures by their initial letters or think of words that began with a certain letter and then draw pictures of objects beginning with the letter. The final activity of the lesson involved reading a simple 6-7 page story that featured the letter of the day.[2] In each story, most of the content words began with the same letter. There were usually 3-6 words and an illustrative picture on a page. The teacher read a story through once (Level 1 instruction), sometimes emphasizing the sound of the featured consonant and pointing to the initial letters (Level 2 instruction). Then each child, in turn, was

asked to read a page from the story (Level 1 task) and was sometimes asked to point to the featured consonant as a word was spoken (Level 2 task). After the first day of instruction the children were able to read one new story and reread at least one story during a lesson.

For the story-oriented training group, the same picture cards and stories were used, but instruction in naming, printing, and sounding letters was omitted. Instead, children were presented with two pictures of labeled objects (pictures from advertisements) and asked which they would choose for a specific function as described by the teacher. For example, the teacher might ask, "Which would you use if you wanted to clean your sink?" A child was to find the appropriate pictured item. At the end of the game, the cards were handed back to the teacher with a child naming or describing them. For story reading, as with the other group, the story was first read by the teacher and then each child, in turn, read a page. However, this group was encouraged to expand on or talk about the story rather than to pay attention to letter sounds. The last activity involved having the children draw a picture and then tell a story about the picture or, after being shown a label and hearing an opening statement, continue the story by describing what might happen next.

Results

Test effects. Analysis of pre- to posttraining changes showed some direct effects of the training. One was that children from both groups

improved in their ability to handle books. During the pretest, only half the children righted the book that had been handed to them upside down. On the posttest all of them righted it. Second, when asked to read a new 13-word story, the print-oriented group used the actual words appearing on the page more frequently than did the story-oriented group (27% versus 15% of the words; see Table 1). Also, a comparison of the two groups' writing shows that the print-oriented group better understood the writing task (also in Table 1). However, there were no pre-post gains in spelling or in letter naming (Table 2).

Insert Tables 1 and 2 about here.

Correlations between the tests and the first parent questionnaire shown in Table 3 replicate and extend effects obtained by Mason (1980) and Mason and McCormick (1979). Uppercase letter naming, as would be expected, was closely related to lowercase letter naming. Lowercase letter naming, however, was better related to writing and spelling, especially after training. Also, writing, book words, and spelling were interrelated. All of these tasks were positively correlated with parents' assessment of their children's knowledge but not with parent support. Story recall, which was not related to the prereading tests, was correlated with parent support. These results reinforce the assumption that

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Insert Table 3 about here.

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differentiation and naming of uppercase letters are Level 1 characteristics; they are initial signs of acquisition of reading concepts. Upper- and lowercase letter naming is followed at close hand by writing, rudimentary spelling, recognition of words in context, and use of some of the terms that describe the act of reading. The high correlations with the knowledge items on the parents' questionnaire suggest that parents can assess their young children's prereading knowledge. However, the low correlations with support items on the questionnaire indicate that our questions did not adequately evaluate parents' role in supporting prereading. Also, the lack of relationship between story recall and other prereading tests deserves further study, as it suggests that the ability to remember and talk about a story is quite separate from a letter- and word-learning activity.

Questionnaire results. Children's posttraining knowledge and interest in prereading was measured by two questionnaires. The interest questionnaire, given three weeks after training, determined that 13 of the 15 children were still interested in the six little books that had been duplicated and given to them on the last day of the training. (One family moved away prior to the follow-up questionnaire, and one child forgot to take the books home.) Twelve of the 13 children were reported to read the books occasionally or frequently (rather than seldom or never) to parents, siblings, or other friends, and 12 were more interested in reading words at this time than prior to the training. No training

differences appeared; instead, all parents reported their children to have greater interest in letters, words, or books.

The other follow-up report, a repetition of the knowledge and support questionnaire, was handed out to the parents five months after training. Twelve parents responded. There was no significant change[3] in parental support ($t = 1.6$, $p > .10$). However, a significant increase occurred of parents' estimates of their children's knowledge of prereading ($t = 3.9$, $p < .01$), with higher gains appearing for the story-oriented ($\bar{X} = 5.8$) than for the print-oriented group ($\bar{X} = 2.5$). Since the second questionnaire was given five months after training, it was conceivable that the increase in knowledge by both groups was due to a natural developmental increase rather than to our training. To test that possibility, we gave the questionnaire to a new group of parents from the same daycare center whose children were nearly the same age at the follow-up report time as those in the earlier group. The results in Table 4 show no difference between the untrained and pretrained children, permitting the conclusion that the effect was due to the instruction the children received.

Insert Table 4 about here.

Transcript analysis results. Although test and questionnaire results showed inconsistent effects of training, it was possible that instructional differences would be apparent from a micro-analysis of teacher-student interactions. To carry out the analysis, a second lesson given to

children who had received Level 1 and Level 2 training was transcribed; other lessons served to check the findings. The teacher's activities as well as the children's reactions to task, materials, and procedure were analyzed. After repeated viewings of the tapes, we chose three measures of teacher activity that could be reliably counted and that we thought captured the teacher's intent: (a) number of directives explicitly given to children to carry out a task; (b) number of implicit directives; and (c) number of occasions the teacher gave or repeated an answer or helped a child find a correct answer. Four types of student responses were counted: (a) number of correct single or overlapping responses (multiple answers given at the same time were individually counted because we assumed that each child who answered was responding independently); (b) number of response repetitions, which were occasions of repeating answers given by the teacher or another child; (c) number of no responses, where nothing was said even though explicitly directed by the teacher; and (d) number of wrong responses, when attempts by children to answer were incorrect. Two raters separately tabulated these activities, settling any disagreements in conference.

The tasks are presented in Table 5 rearranged according to their instructional focus. Level 1 tasks at the top of the table are those which direct children to recite or read words in context, copy letters, or recognize them by name. Level 2 tasks, which are below, direct children to relate or match letters or their sounds to the first letter in words. The four children whose responses are categorized here are

representative of the sorts of response made by other children and in other lessons.

Insert Table 5 about here.

The two types of tasks had strikingly different effects on the children. First, there were far more responses with Level 1 than Level 2 tasks (78 versus 30), and a greater percent were correct (79% versus 3%). Second, children remained silent or answered incorrectly far less often when the teacher requested a response to a Level 1 task than to a Level 2 task (8 times as against 18). The poorer performance of the children with Level 2 tasks could not be ascribed to fewer requests to answer. The teacher issued 27 explicit directives (and 8 implicit directives) with Level 1 tasks but made 47 directives with Level 2 tasks. She gave help almost as frequently, giving a clue or repeating an answer on 56 occasions with Level 1 tasks and on 41 occasions with Level 2 tasks. Also, since the children did respond to Level 1 tasks, we could not surmise an unwillingness on their part to talk. It appears instead that they were unwilling to answer and unable to profit from the numerous examples because the tasks dealt with a representation of reading that they did not yet understand. The results support the model's prediction that for these Level 1 children reading was oriented around meaningfulness. They could learn to read or recite the words in the story, relying on picture information and help from the teacher. Reading did not mean analyzing words

into letter sounds or relating letters to the initial phonemes of words. They could not think of words that began with a particular letter and did not understand why they were drawing pictures to go with particular letters.

The following excerpts from the lesson transcript of Level 1 and Level 2 tasks exemplify children's ability to accomplish Level 1 tasks but not Level 2 tasks. The transcript also displays how Level 1 tasks proceeded more smoothly and had fewer interruptions by children and how errors were closer to the right answer with Level 1 than Level 2 tasks.[4]

Level 1 Task (Finding t in box of letters)

T:	Look in there and find me a t. TO, you want to pick the first one?	Teacher leans box of letters toward TO.
TO:	(reaches in and takes a card labeled t.)	
T:	Huh. Okay. Good boy. Okay AN go and then JE. Get a t outa there.	Teacher holds box in front of AN, leans toward her.
AN:	(takes a card with t.)	
T:	Huh; good girl.	
JE:	(reaches in box, takes card)	As teacher moves box toward JE, he takes a card.
T:	There's some big ones and some little ones. Good, JE.	

Level 1 Task (Reading new story)

T: TO, can you tell me what's this page? A teeny.. [tiny turtle] 5
TO: [tiny turtle]

Teacher is asking children each to read a page of the new story. This is their first reading after the teacher had read the story to them. T holds book in front of TO.

T: And now it's AN's turn. Let's listen 'n see if AN can figure it out. A . . .

T looks up, turns page points to page, leans forward.

AN: teeny tiny.. [frog]
T: [toad] Cause we want tuh. A teeny tiny toad. It's just like a frog. HUH. Okay, JE. Let's see. A . . .

T lifts head and looks at T, nods at AN. Turns page. T leans toward JE.

JE: Teeny tiny cat
T: A teeny tiny . . .
JE: . . . tiger
T: Tiger, you betcha.

T turns page.

T: What're they doin' Taking . . . Now it's KR's turn

T points, holds book toward KR.

KR: Tea.
T: Tea. Huh.

T smiles, turns page. Sits up.

Level 2 Task (Telling words that begin with t)

T: What else starts with tuh?
TO: (no response)
T: C'n you think a one?
AN: (no response)
T: Tree. And I bet JE knows. What's another one?

Teacher is asking children to think of words beginning with t. T taps TO on arm, looks at him. T leans toward AN.

T looks over at JE. JE looks down.

JE: Um . . .

T: What's on your car? A tire?

JE: (nods)

Level 2 Task (Making pictures that begin with t)

T: And a train. Let's put a t there so we have a t for the train.

KR: But look! The t is going across there!

T looks at KR.

T: Oh it's a gigantic t. Let's make--And what are you doing? Are you making a tree?

T, having directed children to draw pictures and label them with the letter t, is asking AN to label her train.

T leans toward TO, taps him on the arm.

AN: Or a turnip? T for--t, t t for

T: (inaudible) And what is that?

TO: A number.

T: A number?

KR: Hey I'm

A two? (inaudible)

T: Is that a two? A t for two?

TO: (no response)

T: Okay, two.

Discussion

Results from three sources--test data, parent report, and lesson transcript--provide converging evidence about children's first conceptualizations of reading. Children who can name only a few letters but have little other knowledge about reading can learn to recognize printed words in

context. They can recognize, name, and print letters and can learn to read (or recite) very simple stories, but they do not understand how to analyze words, identify letter sounds, or relate phonemes to letter sounds. Further, instruction that features print meaningfulness can proceed smoothly, involve few errors, and engage children's interest and attention. For example, all the children were enthusiastic about reading the stories and were able to participate after they heard a story. An immediate result of training was that everyone knew to turn a book right side up. Another, according to parents, was that the children now had a greater interest in letters, words, and stories. Five months after training the children were reported by parents to be more knowledgeable about print.

It is important to note that facilitative effects of training surrounded Level 1 rather than Level 2 activity. Parents indicated changes principally in recognition of letters and words rather than spelling or sounding out of words. The micro-analysis showed few correct responses to Level 2 tasks even though the teacher had given many examples and requested many answers. This meant that while the teacher's instructional effort was as great for Level 2 as for Level 1 tasks, it provided less "pay off" in terms of positive student responses. So despite the teacher's concerted effort to increase children's Level 2 knowledge, they seldom responded in a meaningful way, showing no evidence during the lessons of increasing their understanding of these tasks and little evidence at home of attending to these tasks.

The notion we are espousing is that it is not the amount of instruction that matters so much as the degree of congruence between instructional content and children's representation of the information. This interpretation is based principally on the transcript analysis and pre-post parent response. In conjunction with correlational analysis, the results suggest that there are levels of prereading development which can be related to instructional effectiveness. If this result is confirmed in further work, it will be possible eventually to construct formal and informal instructional guidelines for parents and teachers in order to prepare young children for reading.

We do not wish, however, to leave readers with the impression that all changes in children's knowledge about and interest in reading were due solely to the ten short lessons children received. We believe, instead, that the little books the children were given to take home helped to orient not only children, but their parents and their day care teachers, to appropriate prereading tasks. Our evidence comes principally from parents' comments. On the first posttraining questionnaire, parents remarked on their children's strong interest in the books they had learned to read. Many parents said that the children were very pleased to be able to act like readers. For example, one mother stated that for the first time her daughter wanted to read to her. Another mother

stated that her child liked the little books so much that they made similar books of their own. Many of the children were said to read daily the little books to younger siblings, babysitters, parents, or even stuffed animals. It seems likely that for the first time the children had reading materials that not only belonged to them but that they could proudly assert that they could read.[6] In all likelihood, when parents and teachers could see that their children were reading or reciting simple stories, the adults began to play a more constructive role in furthering children's knowledge. The story books may have served as a first stepping stone to literacy because parents and teachers saw new ways to foster reading as well as because the children could better conceptualize what it means to read.

Two open-ended questions on the last questionnaire also suggest that more and better-focused parental participation helps to explain children's increased reading activity. Nine of the 12 parents responded affirmatively to the question, "Is anyone teaching the child about reading? Briefly describe . . ." Most of the parents mentioned naming and spelling printed words for children (a typical comment was, "I point out words when reading stories to him"). Only one parent also mentioned a Level 2 activity (she "tries to show her that you can sound letters out"). Nine parents added comments about other activities: "Amy will see words with letters A, M or Y in them and get excited because those letters are in her name." "He wants to know more about what certain things say, like

cereal boxes." "Toby asks how to spell words and writes the letters as they are said." "She has a rhyming game and she can identify those names on the card and those that do rhyme. She even makes up her own rhyming words." While all of these parents were playing a valuable role in helping their children learn and find meaning in printed words, all but one were giving help that could be characterized as Level 1 rather than Level 2 activity. We think that the children began learning about reading because the training that oriented them to print was then, with the aid of appropriate materials, transferred to home and daycare settings.

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Footnotes

[1]The story, called "Signs," contained these nine pages: Stop (with picture of stop sign)/car (with picture of stop sign and car)/stop (with picture of stop sign)/bus (with picture of bus)/stop (with picture of stop sign)/truck (with picture of truck)/stop (with picture of stop sign and railroad track)/for the train (picture of train)/hoot (no picture). In scoring, we counted the number of content words on each page that the child said.

[2]For example, the story featuring C contained the following seven-page text: Can you carry? A cat/and a cup/and a cap/and a clown/and a cake/on a cow?

[3]Questionnaire scores were computed after translating responses of seldom, occasionally, or frequently to 1, 2, and 3, respectively. Changes were noted as 0 (no change), +1 (change to the more positive term), -1 (change to the more negative term).

[4]Two errors from Level 1 tasks are in these excerpts. A child said "frog" instead of toad and "cat" instead of tiger. These errors demonstrate the importance for Level 1 readers to have unambiguous pictures with the stories. These two pictures were not satisfactory.

[5]Brackets in the transcript indicate overlapping speech.

[6]These and similar stories were originally constructed by the authors because there were no published materials that we found that were easy enough for 4-year-old children to learn in one or two readings and that contained an interesting story line with an amusing or surprising ending.

Table 1

Comparison of Print- and Story-Oriented Groups After Training

	x	sd	t
Reading New Story			
Print-oriented	2.71	1.50	
Story-oriented	1.28	.95	2.13*
Write "Something"			
Print-oriented	4.28	2.21	
Story-oriented	2.71	2.56	1.23
Write "Letters"			
Print-oriented	6.71	1.89	
Story-oriented	5.14	2.41	1.36
Write "Words"			
Print-oriented	8.57	1.99	
Story-oriented	5.86	2.73	2.12*

Note. There were seven children in each group. One child who had attended kindergarten was omitted.

*$p < .05$

Table 2

Comparison of Print- and Story-Oriented Groups on Prereading Knowledge Before and After Training

	Pretraining		Posttraining	
	$\bar{x}$	sd	$\bar{x}$	sd
Uppercase Letters				
Print-oriented	8.14	4.74	8.00	5.03
Story-oriented	6.14	5.55	6.43	5.50
Lowercase Letters				
Print-oriented	4.71	3.64	5.43	3.73
Story-oriented	4.14	3.72	4.57	4.27
Spelling				
Print-oriented	1.00	1.16	.81	1.21
Story-oriented	.71	.76	.57	.98

Note. There were seven children in each group. One child who had attended kindergarten was omitted.

Table 3

Conclusions Among Pre-Post Test Scores and

Parent Questionnaire Responses

	2	3	4	5	6	7	8	9	10	11	12	13
Pretest												
1. Uppercase letters	87**	.38	.27	-.23	97**	89**	.35	.44	.62*	.59*	.13	-.28
2. Lowercase letters		.50	.55*	-.16	87**	95**	.48	.43	.65*	.54*	.06	-.26
3. Spelling			.72**	.01	.39	.62*	96**	.56*	.73**	.52	.09	.14
4. Book words				.29	29	59*	.74**	42	61	.22	.08	.05
5. Story probed recall					-.06	-.07	-.04	12	09	19	.55*	.29
Posttest												
6. Uppercase letters						90**	.32	.46	.60*	.68*	.19	-.30
7. Lowercase letters							.57*	.56*	.76**	.65*	.17	-.08
8. Spelling								.52	.73**	.42	-.03	.11
9. Writing									.82**	.51	.14	.28
Parent Questionnaire												
10. Pretest knowledge assessment										.71**	.17	.22
11. Posttest knowledge assessment											.17	.23
12. Pretest support assessment												.66*
13. Posttest support assessment												

*p < .01

**p < .05

Table 4

Parent Questionnaire Responses

Under Three Instructional Conditions

	n	$\bar{x}$ assessment of knowledge	$\bar{x}$ assessment of support
Untrained children	12	17.5	21.7
Pretrained children	15	17.4	21.8
Posttrained children	13	21.5	23.3

Table 5

Instruction for Level One and Level Two Tasks

Tasks	Teacher Activity			Student Responses			
	aid or example	explicit directive	implicit directive	Correct	Repetition	None	Wrong
Level 1 Tasks							
Identifying own printed name	1	6	0	3	0	1	1
Printing t	1		0	4	0	0	0
Finding t in box of letters	2	9	0	13	0	0	1
Reading of story by teacher[a]	19	0	0	-	-	-	-
First reading by children[a]	12	4	0	10	0	0	2
Second reading by children[a]	3	3	3	17	6	0	0
Review story first reading[a]	10	5	1	5	2	0	1
Review story second reading[a]	8	0	4	10	0	0	2
Level 2 Tasks							
Telling words that begin with t	9	10	0	0	3	6	0
Making pictures that begin with t	23	21	0	1	2	2	3
Pointing to t in words in story	9	16	0	0	6	4	3

[a]Each content word in the story that was read or repeated by the teacher was counted as an example. There were only 16 content words in the new story and 10 content words in the review story.